

REMARKS

Claims 1 - 25 were pending in the instant application at the time of the outstanding Office Action. Of these claims, Claims 1, 13, and 25 are independent claims; the remaining claims are dependent claims. All claims stand rejected under 35 USC § 101; claims 1-7, 9-19, and 21-24 stand rejected under 35 USC § 102(b) as being anticipated by Kirchoff; and claim 25 stands rejected under 35 USC § 103 as obvious over official notice. Applicants note no art rejection has been made against claims 8 and 20, however, these claims have not been indicated as containing allowable subject matter.

It should be noted, however, the amendments made herein are not in acquiescence of the Office's position on allowability of the claims, but merely to expedite prosecution, and that Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Section 101 Amendments

Claims 1-25 stand rejected under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter, and in particular, because 1) the recited linguistic features represent abstract data because they are not tied to "real-world" speech data in the claims and 2) while the claimed invention process speech data using a mathematical ranking algorithm to produce modified speech data models, the modified data models are not tied to any practical "real-world" application.

Applicants have amended the independent claims to obviate the rejections. With respect to the first basis of the rejection, the independent claims have been amended to recite "building a model for each feature of an original set of linguistic features of the speech input data, wherein the model reflects whether or not each feature is present". (emphasis added) With respect to the second basis of the rejection, the independent claims have been amended to recite "wherein the rebuilt model is used in facilitating speech recognition of the speech input data", which is similar to the amendment suggested by the Examiner to obviate the rejection. The independent claims, as amended are now clearly directed to statutory subject matter.

The above Remarks notwithstanding the Applicants recognize and understand the focus of the Patent Office on ensuring that claims meet the statutory requirements of Section 101. To that end, should the Examiner, upon re-evaluation of the current rejection in light of the foregoing Remarks, deem that a rejection under 35 U.S.C. § 101 is still proper; Applicants and their undersigned representative kindly request the courtesy of a Telephone Interview so that an agreement may be reached as to how the claims might be amended in order to satisfy Section 101 before the issuance of a Final Rejection.

**Rejection of Claims 1-7, 9-19, and 21-24
Under Section 102(b) Over Kirchoff**

Claims 1-7, 9-19, and 21-24 stand rejected under Section 102(b) as being anticipated by Kirchoff. This reference was discussed within the specification of the present invention, as set forth below:

In a preferred embodiment of the present invention, the top 4 features may be retained in the final system. Having selected a subset of features to consider, one may then rebuild the models using only the selected features. The rebuilding process mimics the two-stage procedure described above, except that the augmented (13+N)-dimensional observation vector becomes 17-dimensional instead of 27-dimensional as was used when modeling the complete set of features.

As was described above, from the second-stage feature models, one may preferably calculate a score based on the log-likelihood ratio under the hypotheses of feature present and feature absent for each of the retained features and append those scores as four additional features to the usual cepstral representation.

It is to be noted that the method of feature subset selection differs from the information-theoretic criterion used in Kirchhoff, K., "Robust Speech Recognition Using Articulatory Information" (International Computer Science Institute Technical Report TR-98-037, August, 1998), in that one looks at the information about the true feature presence or absence provided by the estimates of each of the features. More particularly, processing in accordance with at least one preferred embodiment of the present invention is done independently for each feature and is not aimed at reducing dimensions based on correlations among features; rather, here one preferably seeks to model only those features whose model will prove to be useful for phonemic discrimination.

Thus, the claims have been amended to specifically require, *inter alia*, "rebuilding the model for each of a preselected number N of the ranked linguistic features, wherein the rebuilding is done independently for each feature". (Claim 1, emphasis added)

Similar language appears in the other independent claims.

It is thus respectfully submitted that Kirchhoff falls short of the present invention. Applicants further respectfully submit that the applied art does not anticipate the present invention because, at the very least, "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction." W.L. Gore &

Associates, Inc. v. Garlock, 721 F.2d 1540, 1554 (Fed. Cir. 1983); see also In re Marshall, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978).

Rejection of Claim 25 Under Section 103(a)
Over Kirchoff in View of Official Notice

Claim 25 stands rejected under 35 USC § 103(a) as obvious over Kirchoff in view of Official Notice. Specifically the Office asserts that:

While Kirchoff does not teach it, the examiner takes official notice that it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement the method taught by Kirchoff using a computer program contained on a computer storage device, since computers are conveniently used and their programs easily updated for performing speech recognition operations, while a storage device would offer means of storing any training databases or other necessary stored information.

Applicants respectfully traverse the Examiner's rejection of the claims under 35 U.S.C. § 103(a). Applicants further respectfully traverse the Examiner's taking of Official Notice that "it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement the method taught by Kirchoff using a computer program contained on a computer storage device".

Applicants respectfully submit that it is improper to take official notice that claimed subject matter is obvious. Rather, official notice is taken with regard to alleged facts which are used to support the conclusion of obviousness. To the extent the Examiner is asserting a computer program contained on a computer storage disk was notoriously well known in the art, Applicants respectfully submit that the Examiner has

the burden of providing “substantial evidence” to support the factual conclusion that claimed subject matter is notoriously well known in the art. MPEP § 2144.03.

The Examiner should only take Official Notice unsupported by documentary evidence when the facts asserted to be well known “are capable of instant and unquestionable demonstration as being well known” so as to defy dispute. MPEP § 2144.03(A). It is **not appropriate** for the Examiner to take Official Notice asserting facts not capable of instant and unquestionable demonstration without citation of a prior art reference. Id. Citation to some prior art reference recognized as standard in the art is **always** necessary to support a specific assertion of specific knowledge in the prior art. Id. Assessments of common knowledge not based on any evidence in the record lack substantial evidence support. Id.

Further, the line of reasoning underlying the Examiner’s decision to take Official Notice of a fact must be clear and unmistakable. MPEP § 2144.03(B). When Official Notice of common knowledge in the art is taken the Examiner must **explicitly** set forth the basis for such reasoning and “provide **specific** factual findings predicated on sound technical and scientific reasoning.” Id.

The Examiner in the outstanding Office Action merely asserts “it would have been obvious to one of ordinary skill in the art.”

The Examiner sets forth **no** documentary evidence or prior art references to support this assertion of **specific knowledge in the art**, as is required, in order to properly take Official Notice. MPEP § 2144.03(A). Nor does the Examiner relate, **at all**,

how exactly the asserted notoriously well known claimed subject matter is capable of instant and unquestionable demonstration as being well known. Id. Moreover, the Examiner **does not** provide any lines of reasoning or scientifically or technically based factual findings that support the conclusion that the claimed subject matter is notoriously well known in the art. MPEP § 2144.03(B).

For the foregoing reasons Applicants respectfully submit that the claimed subject matter subject to the Examiner's taking of Official Notice is not notoriously well known in the art and that the Examiner's taking of Official Notice is not supported by substantial evidence. MPEP § 2144.03(A), (C). The Examiner's taking of Official Notice with regards to the claimed subject matter is therefore improper.

Applicants respectfully submit that in order to maintain the current rejection the Examiner must provide concrete evidence to support the finding that the claimed subject matter is notoriously well known in the art. Or, if the Examiner's finding is based on personal knowledge, Applicants respectfully submit that the Examiner must provide an affidavit or declaration setting forth specific factual assertions and explanations that support the Examiner's finding pursuant to 37 C.F.R. § 1.104(d)(2). MPEP § 2144.03(C). Should the Examiner provide such concrete evidence, affidavit, or declaration, however, doing so precludes the Examiner from making the rejection of the claims final in the next Office Action as Applicants are entitled to have an opportunity to respond to the rejection on the merits.

With regards to the Examiner's rejection of the claims under § 103(a), Applicants respectfully submit that in order to establish a *prima facie* case of obviousness three criteria must be met. First, must be some suggestion or motivation to modify a reference or combine reference teachings, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Second, the modification or combination must have some reasonable expectation of success. Third, the prior reference or combined references must teach or suggest all the claim limitations. MPEP § 2143.

Applicants respectfully submit that the Examiner's taking of Official Notice with regards to the claimed subject matter is improper as established above. The applied art then, fails to teach or suggest all of the claim limitations. The rejection is therefore improper and should be withdrawn.

Conclusion

In view of the foregoing, it is respectfully submitted that Independent Claims 1, 13 and 25 fully distinguish over the applied art and are thus allowable. By virtue of dependence from Claims 1 and 13, it is thus also submitted that Claims 2-12 and 14-24 are also allowable at this juncture.

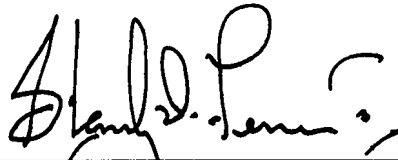
/

/

/

If there are any further issues in this application, the Examiner is requested to contact the undersigned at the telephone number listed below to schedule a telephone interview prior to the issuance of a final Office Action.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stanley D. Ference III", written over a horizontal line.

Stanley D. Ference III
Registration No. 33,879

Customer No. 35195
FERENCE & ASSOCIATES LLC
409 Broad Street
Pittsburgh, Pennsylvania 15143
(412) 741-8400
(412) 741-9292 - Facsimile

Attorneys for Applicants